

**REMARKS**

Reconsideration and allowance of the subject application are respectfully requested.

Upon entry of this Amendment, claims 1-8 are pending in the application. Applicant respectfully submits that the pending claims define patentable subject matter.

As a preliminary matter, Applicant thanks the Examiner for indicating that claim 6 would be allowable if rewritten in independent form. However, Applicant respectfully requests the Examiner to hold in abeyance the rewriting of claim 6 until the Examiner has had the opportunity to reconsider the rejected parent claims in light of the arguments presented below in support of the Applicant's traverse of the rejection.

Claims 1, 2, 4, 7 and 8 are rejected under 35 U.S.C. § 102(e) as being anticipated by Lelic et al. (U.S. Patent No. 6,535,330; hereinafter "Lelic"). Claims 3 and 5 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lelic in view of Well Known Prior Art (Official Notice). Applicant respectfully traverses the prior art rejections.

Independent claim 1 is directed to "[a]n optical amplifier that amplifies signal light in a signal band in a fiber optic transmission system." Independent claim 7 is directed to "[a] fiber optic communication system comprising at least one optical amplifier that amplifies signal light in a signal band." Claims 1 and 7 recite:

first and second optically pumped signal light gain amplifying stages,  
a tilt controller linked to a control unit and linked between the first and  
second optically pumped signal light gain amplifying stages, and  
an optical monitor analyzing signal powers, wherein the optical monitor  
measures an amplified spontaneous emission of the optical amplifier at two  
extreme wavelengths of the signal band, and

a control unit which controls at least the tilt controller and the first and second optically pumped signal light gain amplifying stages to adjust a spectrum of the optical amplifier, based on the measured amplified emission.<sup>1</sup>

Lelic discloses, generally, a control system for optical amplifiers that employs a tilt controller and monitors amplified spontaneous emissions (ASE) at different points in the amplifier output spectrum in order to minimize tilt. Lelic discloses an optical transmissions system comprising an optical fiber and an amplifier including at least one pump laser which excited atoms in a doped optic fiber to amplify output (column 1, lines 14-16). A control circuit is connected to a variable optical attenuator (VOA), and a gain controller and a tilt controller are connected to an input of a VOA control circuit (column 2, lines 13-19). A noise monitoring circuit optically connected to the amplifier for the purpose of providing a signal “indicative of relative strengths of ...[ASE].” (column 2, lines 32-33 and column 4, lines 11-30). The noise monitoring circuit selects points of the amplifier output signal near the endpoints of the output spectrum (column 4, lines 26-30).

Although Lelic discloses first and second gain amplifying stages (11 and 15), a VOA (20), and an optical monitor (37), Lelic does not disclose that the control signals of the optical monitor (control unit) are provided to the first and second gain amplifying stages. In particular, Lelic does not teach or suggest a control unit which controls at least the tilt controller and the first and second optically pumped signal light gain amplifying stages to adjust a spectrum of the optical amplifier, based on the measured amplified emission, as required by amended claims 1

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<sup>1</sup> Claim 7 recites Claim 8 recites similar limitations in method format.

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and 7. Similarly, Lelic does not teach or suggest “generating control signals via a control unit based on the measured signals and providing the control signals to at least to a tilt controller and first and second optically pumped signal light gain amplifying stages of the amplifier, and adapting the tilt according to the control signals to adjust a spectrum of the amplifier”, as required by amended claim 8.

Further, Lelic does not disclose both a tilt monitor and a VOA or a variable attenuation slope compensator linked the tilt controller, the second optically pumped signal light gain amplifying stage, and the control unit, as required by dependent claims 2 and 3.

Accordingly, Applicant respectfully submits that claims 1-5, 7 and 8 should be allowable because the cited reference does not teach or suggest all of the features of the claims.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

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The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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